Pediatric Trauma Emergencies: Single or Multi-System Trauma

I. All Provider Levels

1. Ensure safety and survey the scene to assess environmental conditions and mechanism of injury. If hazardous conditions are present (electrical hazard, chemicals, biological waste, confined space etc), contact the appropriate response agency before approaching the patient. If the patient requires extrication from a vehicle, contact the appropriate fire and/or rescue squad to extricate. Initiate MCI/disaster plan if appropriate.

2. Follow standard body substance isolation precautions.

3. Perform initial assessment. Protect spine from movement and provide for continuous spinal stabilization.

4. Assess the airway for patency, protective reflexes and the possible need for advanced airway management.

   A. Open the airway using a modified jaw thrust.

   B. Look for signs of airway obstruction.

5. Consider placing an oropharyngeal or nasopharyngeal adjunct if the airway cannot be maintained with positioning or if the patient is unresponsive. Suction as necessary.

> ***Note Well:*** *The nasopharyngeal airway is contraindicated in the presence of facial trauma.*

6. Assess the patient's breathing including rate, auscultation, inspection, effort and adequacy of ventilation as indicated by chest rise.

   A. Obtain a pulse oximeter reading.

I. All Provider Levels (continued)

7. If no breathing is present then position the airway and start bag valve mask ventilations using 100% oxygen.

   A. Refer to the vital signs chart for appropriate rates.

8. If airway cannot be maintained, begin ventilations with B-V-M and initiate advanced airway management using a combi-tube.

> ***Note Well:*** *Do not use a combi-tube on a patient younger than 16 years of age or less than 5-feet tall.*

> ***Note Well:*** *The EMT-I and EMT-P should use ET intubation.*

9. If breathing is adequate, place the child in a position of comfort and administer high flow, 100% oxygen.

   A. Use a non-rebreather or blow by as tolerated.

10. Check pulse. If no pulse is present, begin CPR

> ***Note Well:*** *The EMT-I and EMT-P should follow the appropriate cardiac algorithm in addition to the guidelines in this protocol.*

11. Call for ALS support. Initiate care and do not delay transport waiting for an ALS unit.

12. Inspect the chest wall for signs of trauma.

13. Complete a rapid trauma patient assessment including the neck, chest, abdomen, pelvis, legs, arms and back.

14. If signs and symptoms of shock are present, place child in a Trendelenburg position (raise patient's feet).

I. All Provider Levels (continued)

15. Control hemorrhage using direct pressure or a pressure dressing.

16. Establish an IV of normal saline. Use age appropriate large-bore catheter with large caliber tubing.

Note Well: *BLS Providers cannot start an IV on a patient less than eight years of age*

Note Well: *Do Not Delay Transport to Obtain IV Access.*

Note Well: *An ALS unit must be en route or on scene.*

Note Well: *If IV access cannot be readily established and the child is younger than 6 years of age then ALS Providers only may proceed with IO access. If the child is over 6 years of age, then contact Medical Control for IO access.*

II. Advanced Life Support Providers

1. Initiate cardiac monitoring.

2. If tracheal deviation is present and a tension pneumothorax is suspected

   A. Perform needle decompression at the 2nd intercostal space mid-clavicular on the affected side utilizing a large gauge needle. (Follow procedure guidelines.)

   B. Reassess the patient.

II. Advanced Life Support Providers (continued)

3. If evidence for shock persists

   A. Administer a fluid bolus of normal saline at 20ml/kg set to maximum flow rate.

   B. Reassess patient after a bolus.

   C. If signs of shock persist, bolus may be repeated at the same dose up to two times for a maximum total of 60 ml/kg.

4. If signs and symptoms of shock continue to persist,

   A. Establish a second IV using an age-appropriate large bore catheter with large caliber tubing and

   B. Administer normal saline at a keep open rate.

Note Well: *Do not establish an IO for the second access route. Contact Medical Control.*

5. Reassess vital signs and initiate cardiac monitoring.

III. Transport Decision

1. Contact medical control for additional instructions.

2. If spinal trauma is suspected, continue manual stabilization, place a rigid cervical collar, and immobilize the patient on a long backboard or similar device.

II. Transport Decision (continued)

3. Initiate transport to the nearest appropriate facility as soon as possible.

   A. **All patients under 15 years of age should be transported to Children's National Medical Center unless otherwise directed by medical control.**

4. Splint obvious fractures of the long bones. If a femur fracture is present, put on a hare traction splint.

5. If the patient is hemodynamically unstable, or in cardiopulmonary arrest, transport immediately.

6. Obtain SAMPLE history as well as information on the mechanism of injury.

7. Perform focused history and detailed physical exam en route to the hospital.

8. Reassess at least every 3-5 minutes, more frequently as necessary and possible.

IV. The Following Options are Available by Medical Control Only

1. IO access for patients greater than 6 years of age.

This protocol was developed and revised by Children's National Medical Center, Center for Prehospital Pediatrics, Division of Emergency Medicine and Trauma Services, Washington, D.C.

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